ZHW AF 1733

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of

Robert C. YU et al. Group Art Unit: 1733

Application No.: 09/683,329 Examiner: J. Haran

Filed: December 14, 2001 Docket No.: 118095

For: FABRICATION METHOD FOR ELECTROSTATOGRAPHIC MEMBER HAVING A VIRTUAL FLEXIBLE SEAMLESS SUBSTRATE

REPLY BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The following remarks are directed to the new points of argument raised in the Examiner's Answer dated January 10, 2005.

A. Substantially No Added Seam Thickness

In arguing that the process described in U.S. Patent No. 5,688,355 to Yu (hereinafter "Yu") produces a seamed belt having substantially no added seam thickness, the Examiner's Answer indicates that "Appellants indicated in their specification that Yu teaches forming a seam of little (substantially no) added thickness." Page 12, lines 1-2. Appellants agree that their specification indicates at paragraph [0022] that the belt obtained by the process described in Yu "has a welded seam of little added thickness." In addition, seams described in Yu clearly have little added thickness compared to what the present application refers to as a "typical flexible imaging member" formed by overlapping ends of a sheet, which is indicated to be "about 1.6 times thicker in the seam region than elsewhere." ¶[0012]

However, Appellants do not agree that this recitation of "little added thickness" is equivalent to the recitation in claims 1 and 10 of the present application of "a seamed belt having substantially no added seam thickness."

First, contrary to the assertions in the Office Action, Yu does not teach "a seamed belt having substantially no added seam thickness." Instead, Yu specifically indicates that "[t]he welded seam belt of this invention preferably has a seam thickness of less than about 120 percent but greater than about 103 percent of the total thickness of the original sheet." Col. 17, lines 41-44. This added seam thickness is clearly depicted in Figures 6B, 7B, 8B and 9B. Yu provides no motivation to prepare a seamed belt having a seam thickness of less than about 103 percent of the total thickness of the original sheet. In fact, Yu teaches away from such an embodiment indicating that "an overlap region thinner than 103 percent will not absorb sufficient mechanical pounding energy from the ultrasonic horn action during seam welding process, and therefore, produces a weak seam strength due to incomplete polymer fusing at the overlap." Col. 17, lines 47-51.

Second, the recitation in the claims 1 and 10 of "a seamed belt having substantially no added seam thickness" clearly does not encompass the seamed belt of Yu having a seam thickness of greater than about 103 percent of the total thickness of the original sheet. The inventors of the present application were clearly aware of the process described in Yu. In fact, one of the inventors of the present application, Robert Yu, is the inventor of Yu. In addition, as discussed above, Yu is discussed in the present application. In discussing Yu, the present application indicates that the belt obtained by the process described in Yu "has a welded seam of little added thickness." In addition, the present application indicates at paragraph [0038] that "[p]rior efforts in which portions of the belt ends are ablated away with excimer lasers before overlap reduce seam region thickness and related problems," but that "these efforts still leave margins for improvement." In view of the clear teachings in the

present application of improving on the seam thickness described in Yu, it is clear that the recitation in the claims 1 and 10 of "a seamed belt having substantially no added seam thickness" does not encompass the seamed belt of Yu having a seam thickness of greater than about 103 percent of the total thickness of the original sheet.

Thus, contrary to the assertions in the Examiner's Answer, Yu clearly does not teach or suggest "a seamed belt having substantially no added seam thickness," as recited in claims 1 and 10.

B. Impropriety of Combining Schlueter '974 With The Other References

In arguing that it is proper to combine U.S. Patent No. 5,997,974 to Schlueter et al. (hereinafter "Schlueter '974") with the other applied references, the Examiner's Answer indicates that Appellants argument that Schlueter '974 teaches away from applying a series of coatings to a seamed belt formed from overlapping sheet ends is not persuasive because the present combination of references overcomes the "disadvantage" of added seam thickness "by providing a seamed belt formed from overlapping sheet ends with substantially no added seam thickness." Page 15, line 19 - page 16, line 3. However, as discussed above, Yu does not teach "a seamed belt formed from overlapping sheet ends with substantially no added seam thickness."

In addition, none of Schlueter '974, U.S. Patent No. 5,549,193 to Schlueter et al. (hereinafter "Schlueter '193) and U.S. Patent No. 5,942,301 to Schlueter et al. (hereinafter "Schlueter '301") teach or suggest "a seamed belt formed from overlapping sheet ends with substantially no added seam thickness." In particular, there is a noticeable thickness differential in Schlueter '193, as acknowledged in the Examiner's Answer at page 5, line 9. In addition, both of Schlueter '301 and Schlueter '974 are directed to non-overlapping puzzle cuts. Therefore, none of the applied reference teach or suggest "a seamed belt formed from overlapping sheet ends with substantially no added seam thickness."

As discussed in the Appeal Brief, one of ordinary skill in the art would not have been motivated to combine the teaching in Schlueter '974 of applying a coating over a seamed belt with the teachings in Schlueter '193 and/or Yu of overlapping techniques in order to achieve the method of claims 1, 10, 16 and 21. In view of the fact that the present combination of references does not overcome the "disadvantage" of added seam thickness "by providing a seamed belt formed from overlapping sheet ends with substantially no added seam thickness," as suggested in the Examiner's Answer, it is respectfully submitted that the teaching in Schlueter '974 against using overlapping clearly precludes the combination of references suggested in the Examiner's Answer. In particular, Schlueter '974 clearly provides no motivation to apply a coating over a seamed belt formed by overlapping.

C. Conclusion

It is respectfully submitted that the remaining points of argument set forth in the Examiner's Answer were fully addressed in the Appellants' Appeal Brief. For the reasons set forth herein and in the Appeal Brief, it is respectfully requested that the rejection of claims 1-23 under 35 U.S.C. §103 be reversed.

Respectfully submitted,

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